## Gymea Technology High School
### INSPIRE. LEARN. SUCCEED.

# Assessment Task – Trial Exam

Due Date:  Wednesday 19th August 2020

**Date Distributed:  Tuesday 4th August 2020**          **Task Weighting: 50%**

**Outcomes**

**MA12-1** uses detailed algebraic and graphical techniques to critically construct, model and evaluate arguments in a range of familiar and unfamiliar contexts

**MA12-2** models and solves problems and makes informed decisions about financial situations using mathematical reasoning and techniques

**MA12-3** applies calculus techniques to model and solve problems

**MA12-4** applies the concepts and techniques of arithmetic and geometric sequences and series in the solution of problems

**MA12-5** applies the concepts and techniques of periodic functions in the solution of problems involving trigonometric graphs

**MA12-6** applies appropriate differentiation methods to solve problems

**MA12-7** applies the concepts and techniques of indefinite and definite integrals in the solution of problems

**MA12-8** solves problems using appropriate statistical processes

**MA12-9** chooses and uses appropriate technology effectively in a range of contexts, models and applies critical thinking to recognise appropriate times for such use

**MA12-10** constructs arguments to prove and justify results and provides reasoning to support conclusions which are appropriate to the context

# ASSESSMENT OUTLINE

## 1. WHAT AREAS OF LEARNING DOES THIS ASSESSMENT ADDRESS?

You will need to develop solutions and provide reasoning to a wide variety of problems and demonstrating your understanding of the following concepts:

| | |
|---|---|
| **Topic 1: Further Graphing Techniques** | **Topic 2: Trigonometric Functions and Graphs** |
| **Topic 3: Differential Calculus** | **Topic 4: Applications of Derivatives** |
| **Topic 5: The Anti Derivative** | **Topic 6: Modelling Financial Distribution** |
| **Topic 7: Descriptive Statistics** | **Topic 8: Random Variables** |

**Up to 30% of this Exam can assess solely Preliminary Mathematics Advanced content.**

## 2. WHY IS THE COMPLETION OF THIS ASSESSMENT IMPORTANT?

- This task will draw together the above outcomes and assess a range of mathematical skills and techniques that you have covered in class.
- The examination structure, timing and questioning style presented in this task will mirror that of the HSC examination.
- You will be required to apply your knowledge to a series of unseen questions requiring you to problem-solve solutions.
- It will be used by you and your teachers to assess your knowledge and understanding of the course outcomes, allowing you to refine your skills in preparation for the HSC examination.

## 3. WHAT STEPS DO I TAKE TO COMPLETE THIS TASK?

### Task Outline

You will have **3 hours with 10 minutes additional reading time** to complete this exam. A HSC Reference Sheet will also be provided. The examination consists of the following two compulsory sections:

- **Section 1: Multiple-Choice (10 marks)**. This section contains 10 multiple-choice questions worth 1 mark each covering a range of the concepts listed in the Areas of Learning above. The questions increase in difficulty throughout this section. These must be answered on the blue multiple-choice answer provided. You should allow 1**5 minutes** to complete this section.

- **Section 2: Written Response (90 marks).** The questions in this section will be a mixture of short and long responses worth 1 mark or more covering a range of concepts listed in the Areas of Learning above. You should allow **2 hours and 45 minutes** to complete this section. You need to complete your answers for each question in Examination Booklet provided. All necessary working must be shown for this section.

### Preparation for this Task

As this is an examination you will need to prepare for this task by:

- Creating your summary notes page covering each topic listed above (you can use mind maps, flow charts, dot point lists).
- Accessing practice past papers on Moodle.
- Regularly complete practice examination questions.
- Seeking teacher assistance on unclear work.
- Ensuring all set work is up to date.

### Details for Submission

For successful completion of this examination you must bring the following equipment.

- Board approved calculator
- Blue or black pen,
- Pencils and eraser for graphs
- A ruler

Students who are absent from the examination, or have a legitimate reason for missing the task, must notify the school before the exam commences. To avoid a zero mark being awarded, any absence must be supported by valid misadventure/illness documentation as outlined in the Year 12 Assessment Booklet.

You will also need to complete a self-reflection on your assessment that is to be submitted to your teacher after receiving the solutions. This is to assist you and your teacher in refining your knowledge, skills and examination technique for future assessments.

## 4. HOW WILL MARKS BE AWARDED TO MEASURE MY LEARNING?

Worked solutions with marking criteria for each question will be provided when the exam is marked and returned. You should ensure that you go through these solutions thoroughly to correct your mistakes and ask your teacher if there is anything you are unsure about.